

# MATERIAL SAFETY DATA SHEET

## BRIGADE® 2 EC INSECTICIDE / MITICIDE



MSDS Ref. No.: 82657-04-3-140

Date Approved: 06/23/2006

Revision No.: 2

---

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the EC directive, 2001/58/EC and other regulatory requirements. The information contained herein is for the concentrate as packaged, unless otherwise noted.

---

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** BRIGADE® 2 EC INSECTICIDE / MITICIDE  
**PRODUCT CODE:** 6313  
**ACTIVE INGREDIENT(S):** Bifenthrin  
**CHEMICAL FAMILY:** Pyrethroid Pesticide  
**MOLECULAR FORMULA:**  $C_{23}H_{22}ClF_3O_2$  (bifenthrin)  
**SYNONYMS:** FMC 54800; (2-methyl[1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate; IUPAC: 2-methylbiphenyl-3-ylmethyl (Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate

### MANUFACTURER

FMC CORPORATION  
Agricultural Products Group  
1735 Market Street  
Philadelphia, PA 19103  
(215) 299 6000 (General Information)

### EMERGENCY TELEPHONE NUMBERS

(800) 331-3148 (FMC - U.S.A. & Canada)

(716) 735-3765 (FMC - Reverse charges)

For leak, fire, spill, or accident emergencies, call:

(800) 424-9300 (CHEMTREC - U.S.A. & Canada)

(703) 527-3887 (CHEMTREC - All Other Countries)

---

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

- Amber liquid with an aromatic hydrocarbon odor.
- Moderately combustible. May support combustion if heated above the product's flash point (see Section 9, "Physical and Chemical Properties" below).
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Highly toxic to fish and aquatic organisms. Keep out of drains and water courses.
- Moderate oral toxicity.

**POTENTIAL HEALTH EFFECTS:** Effects from overexposure result from either swallowing or coming into contact with the skin. Symptoms of overexposure include tremors, convulsions, incoordination, decreased locomotion and nasal discharge. Contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours.

**MEDICAL CONDITIONS AGGRAVATED:** None presently known.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Bifenthrin	82657-04-3	25.1	None	R25-20-43-50/53; S1/2-23-24-37-38-45-29
Aromatic Hydrocarbons	64742-95-6	22 - 36	265-199-0	R10-37-51/53-65-66-67; S23-24-43A-57-60-62
1,2,4-trimethylbenzene	95-63-6	11 - 19	202-436-9	R10-20-36/37/38-51/53; S2-26-61
Xylene	1330-20-7	1.1 - 2	215-535-7	R10-20/21-38; S2-25
Surfactant Blend		<7	None	Not classified
Cumene	98-82-8	0.5 - 0.9	202-704-5	R10-37-51/53-65; S2-24-37-61-62
Ethylbenzene	100-41-4	0.04 - 0.06	202-849-4	R11-20; S2-16-24/25-29
1-butanol	71-36-3	<0.6	200-751-6	R10-22-37/38-41-67; S2-7/9-13-26-37/39-46

### 4. FIRST AID MEASURES

**EYES:** Flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.

**SKIN:** Wash with plenty of soap and water.

**INGESTION:** Do not induce vomiting and do not give liquids of any kind to the person. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

**NOTES TO MEDICAL DOCTOR:** This product has moderate oral and, low dermal and inhalation toxicity. It is minimally irritating to the eyes and non-irritating to the skin. This product contains light aromatic hydrocarbons that can produce a severe pneumonitis or fatal pulmonary edema if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

---

## 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Foam, CO<sub>2</sub> or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

**FIRE / EXPLOSION HAZARDS:** Moderately combustible. When heated above the flash point, this material releases vapors which, when mixed with air, can burn or be explosive.

**FIRE FIGHTING PROCEDURES:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

---

## 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize contaminated area, scrub area with a solution of detergent (e.g. commercial product such as SuperSoap™, Tide®, Spic and Span®, or other high pH detergent) and water. Let solution sit for 5 minutes. Use a stiff brush to scrub affected area. Repeat if necessary to remove visible staining. Additional decontamination can be made by applying bleach (Clorox® or equivalent) to affected area.

Absorb wash-liquid as noted above, remove visibly contaminated soil and place into recovery / disposal container (plastic, open-top steel drum or equivalent). Place all clean-up material in a container, seal and dispose of in accordance with the method outlined in Section 13 "Disposal Considerations" below.

For further information on spill clean-up, waste disposal, or return of salvaged product, call the FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

## 7. HANDLING AND STORAGE

**HANDLING AND STORAGE:** Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Keep out of reach of children and animals. Do not freeze. Do not store below 4°C (40°F). If crystals are observed, warm material to above 15°C (60°F) by room heating only. Do not use external source of heat for warming container. Shake container periodically to re-dissolve crystals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Aromatic Hydrocarbons			18 ppm
1,2,4-trimethylbenzene		25 ppm (PEL)	
Xylene	150 ppm (STEL)	100 ppm (PEL)	
Cumene	50 ppm (TWA)	50 ppm (PEL) (skin)	
Ethylbenzene	100 ppm (TWA) 434 mg/m <sup>3</sup> (TWA) 543 mg/m <sup>3</sup> (STEL) 125 ppm (STEL)	100 ppm (PEL) 434 mg/m <sup>3</sup> (PEL)	
1-butanol	20 ppm (TWA) (ceiling)	100 ppm (TWA) (ceiling) 50 ppm (PEL) (ceiling)	

**ENGINEERING CONTROLS:** Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

**RESPIRATORY:** For splash, mist or spray exposures wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

**PROTECTIVE CLOTHING:** Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

**GLOVES:** Wear chemical protective gloves made of materials such as nitrile, neoprene or Viton® brand. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

**WORK HYGIENIC PRACTICES:** Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum, or using tobacco. Shower at the end of the workday.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>ODOR:</b>	Aromatic hydrocarbon
<b>APPEARANCE:</b>	Amber liquid
<b>DENSITY / WEIGHT PER VOLUME:</b>	7.8 - 8.0 lb/gal. (940 - 960 g/L)
<b>FLASH POINT:</b>	42 °C (108 °F) (CC)
<b>MOLECULAR WEIGHT:</b>	422.88 (bifenthrin)
<b>SOLUBILITY IN WATER:</b>	Emulsifies
<b>SPECIFIC GRAVITY:</b>	0.94 - 0.96 @ 20°C (water = 1)

---

## 10. STABILITY AND REACTIVITY

<b>CONDITIONS TO AVOID:</b>	Excessive heat and fire.
<b>STABILITY:</b>	Stable
<b>POLYMERIZATION:</b>	Will not occur
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Carbon monoxide, carbon dioxide, hydrogen chloride and hydrogen fluoride.

---

## 11. TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** Minimally irritating

**SKIN EFFECTS:** Non-irritating

**DERMAL LD<sub>50</sub>:** > 2,000 mg/kg (rabbit)

**ORAL LD<sub>50</sub>:** 262 mg/kg (rat)

**INHALATION LC<sub>50</sub>:** 1.86 mg/l (4 h) (rat)

**SENSITIZATION:** This product produces skin sensitization (allergic reaction) in laboratory animals, and may produce similar effects in humans.

**ACUTE EFFECTS FROM OVEREXPOSURE:** This product has moderate oral and, low dermal and inhalation toxicity. It is minimally irritating to the eyes and non-irritating to the skin. Signs of toxicity in laboratory animals included tremors, clonic convulsions, ataxia, decreased locomotion, bloody tears and bloody nasal discharge. Bifenthrin does not cause acute delayed neurotoxicity. Experience to date indicates that contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours. Inhalation of aromatic hydrocarbon vapors may cause dizziness, disturbances in vision, drowsiness, respiratory irritation, and eye, skin and mucous membrane irritation. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs, which may result in fatal pulmonary edema. Exposure to butanol vapors may produce headaches, drowsiness and irritation of the nose and throat. Excessive exposures to butanol liquid or vapors may result in contact dermatitis and irritation of the mucous membranes.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** No data available for the formulation. In studies with laboratory animals, bifenthrin did not cause reproductive toxicity or teratogenicity. Tremors were associated with repeated exposure of laboratory animals to bifenthrin. In lifetime feeding studies conducted with rodents, a slight increase in the incidence of urinary bladder tumors at the highest dose in male mice was considered to be an equivocal response, not evidence of a clear compound-related effect. The overall absence of genotoxicity has been demonstrated in mutagenicity tests with bifenthrin. Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage. Inhalation of xylene vapors at high doses has also resulted in an increased incidence of malformations and decreases in fetal weight in laboratory animals. Damage from xylene may be potentiated by alcohol. Disturbances in hearing and balance have been reported in workers exposed to butanol vapors. Under the conditions of 2-year inhalation studies, conducted by the National Toxicology Program (NTP), there was clear evidence of carcinogenic activity of ethylbenzene in male rats based on increased incidences of renal tubule neoplasms. The incidences of testicular adenoma were also increased. There was some evidence of carcinogenic activity in female rats based on increased incidences of renal tubule adenomas. There was some evidence of carcinogenic activity in male mice based on increased incidences of alveolar/bronchiolar neoplasm. There was some evidence of carcinogenic activity in female mice based on increased incidences of hepatocellular neoplasms. Studies conducted by the International Agency for Research on Cancer (IARC) showed that there is inadequate evidence in humans for the carcinogenicity of ethylbenzene and that there is sufficient evidence in experimental animals; therefore, the overall evaluation shows that ethylbenzene is possibly carcinogenic to humans (Group 2B).

### **CARCINOGENICITY:**

<b>Chemical Name</b>	<b>IARC</b>	<b>NTP</b>	<b>OSHA</b>	<b>Other</b>
Ethylbenzene	Listed	Listed	Not listed	(ACGIH) Not listed

---

## 12. ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are for the active ingredient.

**ENVIRONMENTAL DATA:** Bifenthrin has moderate stability in the soil under aerobic conditions (half-life range from 65 - 125 days depending on soil type) and is stable at a wide range of pH values. Bifenthrin has a high Log Pow (6.6), a high affinity for organic matter, and is not mobile in soil. Therefore, there is little potential for movement into ground water. There is the potential for bifenthrin to bioconcentrate (BCF <2,000).

**ECOTOXICOLOGICAL INFORMATION:** Bifenthrin is highly toxic to fish and aquatic arthropods and LC<sub>50</sub> values range from 0.0038 to 17.8 µg/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on mollusks at its limit of water solubility. Bifenthrin is only slightly toxic to both waterfowl and upland game birds (LD<sub>50</sub> values range from 1,800 mg/kg to >2,150 mg/kg).

---

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

**EMPTY CONTAINER:** Non-returnable containers that held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

---

## 14. TRANSPORT INFORMATION

### U.S. DEPARTMENT OF TRANSPORTATION (DOT)

<b>PACKAGING TYPE:</b>	Non-Bulk
<b>PROPER SHIPPING NAME:</b>	Pyrethroid pesticide, liquid, toxic, flammable
<b>TECHNICAL NAME(S):</b>	Bifenthrin, Aromatic hydrocarbons
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1
<b>HAZARD CLASS, SUBSIDIARY:</b>	3
<b>UN/NA NUMBER:</b>	UN 3351

<b>PACKING GROUP:</b>	III
<b>LABEL(S):</b>	6.1, 3
<b>PLACARD(S):</b>	6.1
<b>MARKING(S):</b>	Pyrethroid pesticide, liquid, toxic, flammable (bifenthrin, aromatic hydrocarbons), UN3351
<b>PACKAGING TYPE:</b>	Bulk
<b>PROPER SHIPPING NAME:</b>	Pyrethroid pesticide, liquid, toxic, flammable
<b>TECHNICAL NAME(S):</b>	Bifenthrin, Aromatic hydrocarbons
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1
<b>HAZARD CLASS, SUBSIDIARY:</b>	3
<b>UN/NA NUMBER:</b>	UN 3351
<b>PACKING GROUP:</b>	III
<b>MARINE POLLUTANT:</b>	Bifenthrin
<b>LABEL(S):</b>	6.1, 3
<b>PLACARD(S):</b>	6.1
<b>MARKING(S):</b>	3351
<b>ADDITIONAL INFORMATION:</b>	Xylene is a Reportable Quantity when in packages containing 9259.26 pounds (1170.6 gallons) or more of this product.

## INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

<b>PACKAGING TYPE:</b>	Non-Bulk
<b>PROPER SHIPPING NAME:</b>	Pyrethroid pesticide, liquid, toxic, flammable
<b>TECHNICAL NAME(S):</b>	Bifenthrin, Aromatic hydrocarbons
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1
<b>HAZARD CLASS, SUBSIDIARY:</b>	3
<b>UN/NA NUMBER:</b>	UN 3351
<b>PACKING GROUP:</b>	III
<b>MARINE POLLUTANT:</b>	Bifenthrin
<b>LABEL(S):</b>	6.1, 3
<b>PLACARD(S):</b>	6.1, 3
<b>MARKING(S):</b>	Pyrethroid pesticide, liquid, toxic,



flammable (bifenthrin, aromatic hydrocarbons), UN3351 + Marine Pollutant

**ADDITIONAL INFORMATION:**

EmS Number: F-E, S-D  
Flash Point: 42°C

## **ADR - EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD**

<b>PACKAGING TYPE:</b>	Non-Bulk
<b>PROPER SHIPPING NAME:</b>	Pyrethroid pesticide, liquid, toxic, flammable
<b>TECHNICAL NAME(S):</b>	Bifenthrin, Aromatic hydrocarbons
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1
<b>CLASSIFICATION CODE:</b>	TF2
<b>UN/NA NUMBER:</b>	UN3351
<b>PACKING GROUP:</b>	III
<b>HAZARD IDENTIFICATION NUMBER:</b>	63
<b>MARINE POLLUTANT:</b>	Bifenthrin
<b>LABEL(S):</b>	6.1, 3
<b>PLACARD(S):</b>	6.1, 3
<b>MARKING(S):</b>	UN3351 + Marine Pollutant
<b>ADDITIONAL INFORMATION:</b>	Road or Rail: ADR NOTES: Packages marked in accordance with the IMDG Code are accepted for shipment.

## **INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)**

<b>PACKAGING TYPE:</b>	Non-Bulk
<b>PROPER SHIPPING NAME:</b>	Pyrethroid pesticide, liquid, toxic, flammable
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1
<b>SUBSIDIARY RISK:</b>	3
<b>UN/NA NUMBER:</b>	UN3351
<b>PACKING GROUP:</b>	III
<b>LIMITED QUANTITY:</b>	Y611 / 2L

**LIMITED QUANTITY: PASSENGER / CARGO:** 611 / 60L

**LIMITED QUANTITY: CARGO:** 618 / 220L

### **OTHER INFORMATION:**

HARMONIZED SYSTEM

Import to the U.S.A.: 3808.10.2500

Export from the U.S.A.: 3808.10.0000

---

## **15. REGULATORY INFORMATION**

### **UNITED STATES**

#### **SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

##### **SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):**

Not listed

##### **SECTION 311 HAZARD CATEGORIES (40 CFR 370):**

Immediate, Delayed, Fire

##### **SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):**

The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:  
None

##### **SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):**

This product contains the following ingredients subject to Section 313 reporting requirements:  
Bifenthrin, 1,2,4-trimethylbenzene, Xylene (mixed isomers), Ethylbenzene

#### **CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)**

##### **CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):**

Listed

<u>Chemical Name</u>	<u>RQ</u>
Xylene	100 lb
Cumene	5,000 lb
Ethylbenzene	1,000 lb
1-butanol	5,000 lb

#### **FEDERAL INSECTICIDE FUNGICIDE RODENTICIDE ACT**

U.S. EPA Signal Word: WARNING

### **INTERNATIONAL LISTINGS**

Australian Hazard Code: 3XE

### **HAZARD, RISK AND SAFETY PHRASE DESCRIPTIONS:**

Bifenthrin:

EC Symbols:	T	(Toxic)
	Xn	(Harmful)
	N	(Dangerous for the environment)
EC Risk Phrases:	R25	(Toxic if swallowed.)
	R20	(Harmful by inhalation.)
	R43	(May cause sensitization by skin contact.)
	R50/53	(Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)
EC Safety Phrases:	S1/2	(Keep locked up and out of reach of children.)
	S23	(Do not breathe gas, fumes, vapor, or spray)
	S24	(Avoid contact with skin.)
	S37	(Wear suitable gloves.)
	S38	(In case of insufficient ventilation, wear suitable respiratory equipment.)
	S45	(In case of accident or if you feel unwell, seek medical advice immediately - show the label where possible.)
	S29	(Do not empty into drains.)

**Notes For Preparation:**

CLASSIFICATION: Mandatory labeling (self-classification) of hazardous substances: applicable

Aromatic Hydrocarbons, (Index #649-356-00-4):

EC Symbols:	Xn	(Harmful)
	T	(Toxic)

EC Risk Phrases:	R10	(Flammable)
	R37	(Irritating to respiratory system.)
	R51/53	(Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)
	R65	(Harmful: may cause lung damage if swallowed.)
	R66	(Repeated exposure may cause skin dryness or cracking.)
	R67	(Vapors may cause drowsiness and dizziness.)
EC Safety Phrases:	S23	(Do not breathe gas, fumes, vapor, or spray)
	S24	(Avoid contact with skin.)
	S43A	(In case of fire use sand, earth, chemical powder or foam.)
	S57	(Use appropriate container to avoid environmental contamination.)
	S60	(This material and its container must be disposed of as hazardous waste)
	S62	(If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.)

**Notes For Preparation:**

Nota H applies to the product or one or more of its components. Annex 1  
 Nota P of Annex 1 applies to the product or one or more of its components.

1,2,4-trimethylbenzene, (Index #601-043-00-3):

EC Symbols:	Xi	(Irritant)
	Xn	(Harmful)
	N	(Dangerous for the environment)
EC Risk Phrases:	R10	(Flammable)
	R20	(Harmful by inhalation.)
	R36/37/38	(Irritating to eyes, respiratory system and skin.)
	R51	(Toxic to aquatic organisms.)
	R53	(May cause long-term adverse effects in the aquatic environment.)
EC Safety Phrases:	S2	(Keep out of the reach of children.)
	S26	(In case of contact with eyes, rinse immediately with plenty of water and seek medical advice)
	S61	(Avoid release to the environment. Refer to special instructions/safety data sheets.)

Xylene, (Index #601-022-00-9):

EC Symbols:	Xi	(Irritant)
	Xn	(Harmful)

EC Risk Phrases: R10 (Flammable)  
R20 (Harmful by inhalation.)  
R21 (Harmful in contact with skin.)  
R38 (Irritating to skin)

EC Safety Phrases: S2 (Keep out of the reach of children.)  
S25 (Avoid contact with eyes.)

Cumene, (Index #601-024-00-X):

EC Symbols: Xi (Irritant)  
Xn (Harmful)  
N (Dangerous for the environment)

EC Risk Phrases: R10 (Flammable)  
R37 (Irritating to respiratory system.)  
R51 (Toxic to aquatic organisms.)  
R53 (May cause long-term adverse effects in the aquatic environment.)  
R65 (Harmful: may cause lung damage if swallowed.)

EC Safety Phrases: S2 (Keep out of the reach of children.)  
S24 (Avoid contact with skin.)  
S37 (Wear suitable gloves.)  
S61 (Avoid release to the environment. Refer to special instructions/safety data sheets.)  
S62 (If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.)

Ethylbenzene, (Index #601-023-00-4):

EC Symbols: F (Highly Flammable)  
Xn (Harmful)

EC Risk Phrases: R11 (Highly flammable)  
R20 (Harmful by inhalation.)

EC Safety Phrases: S2 (Keep out of the reach of children.)  
S16 (Keep away from sources of ignition - No Smoking.)  
S24 (Avoid contact with skin.)  
S25 (Avoid contact with eyes.)  
S29 (Do not empty into drains.)

---

## 16. OTHER INFORMATION

**REVISION SUMMARY:**

This MSDS replaces Revision #1, dated May 15, 2006.

Changes in information are as follows:

Section 12 (Ecological Information)

Section 16 (Other Information)

Brigade and FMC Logo - FMC Trademarks

Viton - E.I. du Pont de Nemours & Co. Trademark

SuperSoap - Trademark of Weba Technologies, Inc.; Tide - Trademark of Proctor and Gamble; Spic and

Span: Trademark of The Spic and Span Company; Clorox - Trademark of The Clorox Company

© 2006 FMC Corporation. All Rights Reserved.

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable where such product is used in combination with any other materials or in any process. Use of this product is regulated by the U.S. Environmental Protection Agency (EPA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.